

**U.S. ENVIRONMENTAL PROTECTION AGENCY**  
**RESOURCE CONSERVATION & RECOVERY ACT**  
**COMPLIANCE EVALUATION INSPECTION REPORT**

Facility Name: Teris, L.L. C. dba Ensco

EPA ID Number: ARD069748192

Inspection Dates: June 21, 2006

Facility Location: 309 American Circle, El Dorado, Arkansas 71730

Facility Mailing Address: 309 American Circle, El Dorado, Arkansas 71730

Environmental Manager: Mr. Michael A. Karp, Telephone: (870)-864-3685

Facility Description: Permitted Treatment, Storage and Disposal Facility, Container and Storage; Incineration; Corrective Action and Large Quantity Generator

Type of Ownership:    ☐ Federal    ☐ State    ☐ County    ☐ Municipal    ☒ Private

Did facility request a copy of the report?    ☒ YES    ☐ NO

HW Activities:    ☒ Gen                      ☒ Treatment                      ☐ Storage (<90d)  
                    ☒ Storage                      ☒ Disposal                      ☐ Transporter

Inspect. Type:    ☒ Lead                      ☐ Overview                      ☐ Subpart CC  
                    ☒ CEI                      ☐ CDI                      ☐ Sampling  
                    ☐ PCE                      ☐ Land Ban                      ☒ BIF  
                    ☐ Multi-Media                      ☐ Maquiladora

(Joint Inspection with State (ADEQ))

Inspection Participants: (name and phone number)

EPA Inspector: Eva K. Steele (214) 665-7211

ADEQ Inspectors: Judy K. Russell, ADEQ Hazardous Waste Inspector; Penny J. Wilson, ADEQ Hazardous Waste Inspector Supervisor; Joe Galesky, ADEQ Hazardous Waste Inspector.

Facility Representatives: Michael Karp, Teris Environmental Coordinator; Bruce Hehmann, Inventory Control; James East, Operations Manager; Larry Epperly, Operations Supervisor; Mike Cobb, Special Handling Supervisor; Jerry Funderburg, Maintenance Analyst; John Meeks, Board Operator/Operations; Roosevelt Wilhite, Residue/Brine Unit Superintendent; Johnny Joeseeph, Maintenance Coordinator; Carla Peace, TSD Customer Support Clerk; Amy Hulsey, Data Center Supervisor; Mary Snowden, Safety/Health Assistant.

Other Participants:

Checklists Completed: (Indicate number attached.)

<input checked="" type="checkbox"/> Generator	<input type="checkbox"/> TSD	<input type="checkbox"/> Transporter	<input checked="" type="checkbox"/> Generator Supplement
<input checked="" type="checkbox"/> Containers	<input type="checkbox"/> Incinerator	<input type="checkbox"/> Landfill	<input type="checkbox"/> Surface Impoundments
<input type="checkbox"/> Tanks	<input type="checkbox"/> Land Ban	<input type="checkbox"/> Groundwater	<input type="checkbox"/> Land Treatment
<input type="checkbox"/> Used Oil	<input type="checkbox"/> BIF	<input type="checkbox"/> Waste Piles	<input type="checkbox"/> Thermal Treatment
<input type="checkbox"/> Subpart CC	<input type="checkbox"/> LOIS	<input type="checkbox"/> Closure	<input type="checkbox"/> Post Closure
<input type="checkbox"/> Subpart BB	<input type="checkbox"/> Subpart AA		
<input checked="" type="checkbox"/> Photographs	<input type="checkbox"/> Chemical, Physical, Biological Treatment		
<input checked="" type="checkbox"/> Attachments (facility documents)			

Apparent violations noted during out briefing: See Narrative - Areas of Concern Section

Reviewed by:



Date:

12/15/06

## **Teris, L.L.C. dba Ensco - NARRATIVE**

### **Introduction**

On Wednesday, June 21, 2006, the U.S. Environmental Protection Agency (EPA) conducted a Joint Resource Conservation & Recovery Act (RCRA) compliance evaluation inspection (CEI) at Teris, L.L.C. dba Ensco located in El Dorado, Arkansas with the Arkansas Department of Environmental Quality (ADEQ). The purpose of the inspection was to observe and review the facility's solid and hazardous waste management practices, specifically as they pertain to RCRA.

When the Inspection Team (Judy K. Russell, ADEQ; Penny Wilson, ADEQ; Joe Galesky, ADEQ and Eva K. Steele of EPA) arrived at Teris, Ms. Russell (the lead Inspector) showed the receptionist her credentials, announced the purpose of the visit, and requested to see the facility environmental manager.

The environmental manager Mr. Michael Karp, adjourned to a conference room to meet with the Inspection Team. Ms. Russell explained the reason for the visit. Mr. Karp informed Inspection Team, that Joe Galesky and Eva Steele would have to read and sign safety orientation. Mr. Galesky and Ms. Steele completed the safety orientation. Ms. Russell gave Mr. Karp a copy of requested documents for later review by the inspection team, which included: Truck and railcar receiving logs for June 12 to present; waste inventory numbers for 204/Modulars for May; inspection logs for 204/Modulars; tanks inventory for May; tanks inspection log for June 12 to present; post-closure inspection log for May; incineration inspection log for May; part BB inspection log for May. (These documents were provided by Teris)

Mr. Karp and the Inspection Team then discussed plant operations and processes, and solid/hazardous waste management practices. Facility operations are discussed in the next section.

### **Operations/Processes**

Teris, L.L.C. dba Ensco is a Hazardous Waste Incineration Facility permitted by the State of Arkansas to incinerate hazardous regulated wastes, such as liquids, sludges, hardened solids and lab packs. The principal treatment process is thermal treatment (incineration). Container and tank storage facilities are operated and maintained as support for the treatment process. Their general commercial function of Teris is to serve as a waste treatment facility where organic waste is thermally treated to reduce the original volume and toxicity of the waste, and render it amenable to disposal elsewhere.

The facility has a storage capacity of approximately 27,410 drum equivalents to ensure uninterrupted service and can accept 55-gallon steel drums, as well as all DOT-approved containers. Additionally, bulk solids and liquids can be received in tankers, end-dumps and roll-offs.

Teris' total incineration capacity in El Dorado is 42,410 lbs/hour. Teris' incineration capacity of the particular units on site: 39,011 lbs/hour for Secondary Combustion Chamber (SCC) and associated equipment 3,399 lbs/hour for Resource Recovery Boiler.

RCRA liquids are fed into the rotary kilns and the SCC, depending on the specific characteristics of the waste. RCRA solids and sludges may be received from the customer, packaged for ram feed into the rotary kilns, repacked by Teris personnel for ram feed, or fed directly into the kilns through an automated shredder auger machine. This system enables Teris to accept waste that is packaged in most any size Department of Transportation (D.O.T.) approved container.

Liquid waste, natural gas, and combustion air are fed into the rotary kilns to initiate and maintain temperature. Two rotary kilns are utilized for treatment of solids and sludges. Shredded solids enter the incinerators via the screw-type auger systems, or they may be repackaged for ram feed. The kilns' off gases are passed through individual vertical cyclones, where additional ash is removed. Exiting ash from the kilns and vertical cyclones are collected and stabilized in an enclosed building. Each batch of ash is tested to ensure that organic treatment standards have been met. Ash is then taken to a fully permitted hazardous waste landfill for disposal. After exiting the cyclone, the gases travel through a duct to the SCC. Additional liquid wastes are injected in the SCC to maintain temperature and react all of the remaining organics with oxygen to produce water vapor, carbon dioxide, and acid gases.

Teris also operates a Resource Recovery Boiler, a single zone combustion chamber fitted with boiler tubes that produce steam. The SCC and Resource Recovery Boiler exit gas streams are continuously sampled and monitored for oxygen and carbon monoxide. The flue gases from the units combine and enter the saturator. Within the saturator, the gas stream is cooled to below 200 degrees Fahrenheit and acid gases are neutralized with lime slurry. The resulting calcium chloride and ash solution are purged from the saturator and sent to the Calcium Chloride Recovery Unit. From this brine liquor, Teris produces a clean calcium chloride solution, which is a beneficial and marketable product. The gases exiting the saturator enter two condenser columns to condition the particulate matter for easier removal downstream. From the condenser columns, the gases pass through a high energy scrubber on the way to the fabric filter (baghouse). Powdered lime and carbon are fed into the fabric filter to react and remove any remaining pollutants in the gas stream. The high energy scrubber and fabric filter ensure that the final flue gas exiting through the stack meet all of the emissions standards promulgated by RCRA and the Clean Air Act. Vacuum is maintained on the entire incineration and air pollution control system by an induction fan, which discharges the final clean gases into the 195' stack.

## Site Tour

After Mr. Karp finished describing the facility processes the Lead Inspector (Ms. Russell) asked for a tour of the facility. The first area the Inspection Team visited was Warehouse 204, Bruce Hehmann, of Teris explained that Warehouse 204 was their receiving and staging area and explained their process and systems for receiving and staging. Mr. Hehmann, also indicated that 100% of containers are inspected, with less than 10% being sampled, except for certain waste streams. (See Attachment B, Photograph # 1)

After the explanation by Mr. Hehmann, the team divided into two groups to complete the inspection of Warehouse 204, due to it's size. Bruce Hehmann escorted Judy Russell, Joe Galesky and Karen Duke, and Michael Karp escorted Penny Wilson and myself.

Penny Wilson and I, began our inspection of Warehouse 204 on the far South side of the Warehouse and worked our way back North to the center of the Warehouse where we joined the other members of the Inspection Team.

During our inspection the following was observed:

1. Rack 4R271: 3 small containers of oxidizers, Item #10700051 & 10708894 & 10693101, Process codes: L02 & L06, Lab Packs.
2. Rack 4R383, Item #09929946 with storage date of 6/2/05 and 2<sup>nd</sup> label, Item #10018717 with storage date of 7/18/05.
3. Rack 4N211, Item #10544610, D04/B03, has "Dangerous When Wet" label.
4. Rack 4N331, 55 gallon metal drum, Item #10726334 is open. Part of the bung is missing. Placed in storage on 6/7/06. (At 1142 hours a Teris employee replaced the bung, the drum was closed).
5. Rack 4M531, black poly without tag.
6. Rack 4L514, spill of some type of substance on floor. Bruce Hehmann, said that a bag was previously picked up from this location and broke/spilled residue, sand was applied by Teris employee while we were there.
7. Rack 4L462, Item #10724683, 5 gallon metal container, lid is peeled up and exposing contents.
8. Overall we observed containers which were bulging, dented, and leaking (See photos 4, 6, 8, 10 and 12). Additionally we observed containers stored on unstable pallets and pallets which were placed too far out of the rack and over the aisle (See photos 5, 7 and 9).
9. Observed 55-gallon containers which were closed with packing tape only and one 55-gallon container in the Oxidizer Modular Storage with the lid taped closed (See photos 11, 14 and 22).

Entire Inspection Team began site visit of Day Feed Tanks on 6/21/06 (east of Warehouse 204), escorted by Larry Epperly, Teris Operations Supervisor.

During our inspection we observed the following:

1. Not all pipe flanges and valves have tags (i.e. not marked with identifying tags. Michael stated that the lines may not be in service, he will check. Some tags appeared to have become detached from equipment and were on the ground. (See photos 19 and 21). Michael also stated that monitoring of the flanges and valves are regularly scheduled and conducted. We asked to receive a copy of the inspections and a list of the valves and flange inventory.
2. Pipe rack North of maintenance has several flanges that are not tagged.

Day Tank Farm (South of Warehouse 204), tanks 8, 9, 10 and 11:

During our inspection we observed the following:

1. Tank 8, not all valves and flanges were tagged. Secondary containment appeared to be in good condition.

Tank 545: observed one crack on a weld on the HDPE liner in the SW corner. Holes observed in the liner were marked on 6/21/06 while we were conducting inspection, so that they could be easily identified for repair. Not all flanges were tagged.

Tanks 201-204: are currently not being used, were used with old Kiln #3.

Inspection Team began inspections of Detached Modular Buildings on 6/21/06. The following was observed:

Modular Storage H: (Corrosive 8 - Dangerous When Wet):

1. JH107, Item #10498812, 55 gallon metal container with lid tapped down, small ring no bolt. (This was repaired by Teris employee while we were on-site.)
2. JH206/Row 1, Item #10673021, leaking 55-gallon plastic container (addressed while on-site).
3. JH114, 5 gallon plastic container, not labeled (addressed while on-site).

Modular Storage G:

1. JG222, Item #10392852, 5 gallon metal container, lid partially bent up and off of container. (Addressed while on-site).

Modular Storage F: (Water Reactive Material): nothing noted.

Modular Storage E: (Water Reactive Material): nothing noted.

Modular Storage A: (Oxidizer Building):

1. Water standing on floor. Forklift driver knocked sprinkler head off loading containers.

Modular Storage B:

1. JB102, box open with oxidizer enclosed in bag in box. Box was sealed by Teris employee, while we were on-site.
2. JB103, 55-gallon plastic container, container was gassed and bulging, contained sulfuric acid/hydrogen peroxide. (Teris employee addressed while we were on-site.)

Inspection of Tank 501 (East of Special Handling Facility): Under corrective action. Nothing noted.

Inspection of Special Handling Facility: Mike Cobb, Special Handling Supervisor and Bruce Hehmann gave a description of the operations.

End of Inspection for 6/21/06.

Began Inspection on 6/22/06 at 8:00 a.m.

Started in the Control Room, doing checks. Johnny Joseph, Maintenance Coordinator, gave an overview of how the system and process works. From there went to Kiln dock, Komar area, and then where pails are processed.

Inspection of Residue Handling area: Ash, Lime and sludge is mixed here. Ash is always sampled. Nothing being processed at time of inspection.

Shipping Lot: roll-offs ready for shipment: some waiting to be picked up, complete analysis, or needing to be re-burned.

Inspection of Post Closure Units: Area 79: looked good, groundwater monitoring sampled once a year. Area 163: sign marking the area, is down. Area 108: nothing noted. Oily Waste Lagoon: small amount of erosion on NW side. T.E.L. pit: nothing noted.

### **Records Review**

After the site tour/inspection was completed, the Inspection Team met with various Teris staff for a records review.

Met with Jerry Funderberg, Maintenance Analyst. Discussed monitoring of flanges and valves. He stated that they are going from plastic tags to metal tags, because the plastic tags do not hold up well. He is in the process of taking the drawings of all the piping and making changes/additions of tags. Will take a drawing out with him, to make sure pipes are as drawn. Tests conducted for fugitive emissions every 90 days. Judy Russell asked for a copy of the inspection reports for May of 2006.

Inspection/Review of Personnel Training Records with Mary Snowden: 4 personnel records reviewed by Judy Russell.

Inbound Manifest Review: several incoming (unprocessed) manifest were reviewed by Judy Russell. I reviewed 3 separate Invoice Files for manifest, and all were complete. Other inspectors on the team also reviewed various manifest. One manifest was found which did contain discrepancies. ADEQ has specifics and will address.

## **Exit Briefing**

Exit Briefing with Teresa Evans, Bruce Hehemann, Amy Julsey, Michael Karp and James East from Teris. Judy Russell conducted Exit Briefing

### **Areas of Concern:**

1. Housekeeping Issues in Warehouse 204: container storage, containers conditions, labeling issues, potential for damage to sprinkler system with current configuration. Some containers were found with 2 different storage tags. (Michael says that one of the tags was from their California facility, and that the tags from California will now be blue in color instead of white in color that is used by their facility).
2. BB: Did not appear that Jerry had gotten very far on tagging flanges and valves. Tagging material needs to be strong and durable and needs to be completed in a timely manner.
3. Oxidizer and Water Reactive waste in Warehouse 204: Although they were not by sprinklers, they should be stored in modular buildings, as per the intentions of the permit modification. (Bruce indicated that the employees are reading the tags wrong, and that this would be corrected.) Penny Wilson asked what criteria Teris uses to put them into the modular storage. Teris indicated that J01 could stay in Warehouse 204 if they sampled everyone-but they don't sample them, so they are all sent to modular storage. (J01 is a class 1 oxidizer).
4. Manifest issue: one manifest found to contain discrepancies. Teris indicated that this was Household Hazardous Waste and it exempt. But that they would research and provide ADEQ with additional information.

## **Sampling & Analytical**

No sampling was performed at the Teris, L.L.C El Dorado, Arkansas facility.

## **Areas of Concern**

1. Failure to transfer hazardous waste from a container that is leaking or otherwise not in good condition to a container that is in good condition.
2. Failure to store a container holding hazardous waste in a manner to avoid rupture or leaking.
3. Failure to keep a container holding hazardous waste closed during storage, except when it is necessary to add or remove waste.
4. Failure to mark equipment which contains or contacts hazardous waste in such a manner that would distinguish it readily from other pieces of equipment.
5. Failure to maintain a secondary containment free of cracks or gaps.
6. While conducting the inspection of Warehouse 204, three (3) small containers labeled as oxidizers were observed in Rack 4R271. These containers, item numbers 10700051, 10708894, and 10693101 were identified as Chromic Oxide, Ammonium Persulfate, and a Chromic and Sulfuric Acid mixture. Although the Ammonium Persulfate was the only oxidizer, all three containers were labeled as such.
7. Also observed in Warehouse 204 Rack 4N211, was a container labeled "Dangerous When Wet" item number 10544610. However, the Waste Material Data Sheet (WMDS) 211704, listed the waste as miscellaneous PPE and general waste with waste codes D003, F039, D018, U019, D001, and D002.

Recent modifications to the State Teris Permit, 10H-M025, provided segregated modular building for oxidizers and water reactives. While permit language does not specify that all oxidizers and water reactives are to be placed in these buildings, the intent of the modifications was to avoid the possibility of reactive waste creating a dangerous incident in Warehouse 204.

8. During the records review a manifest was found which contained discrepancies between the waste profiles of Teris-Wilmington and Teris-El Dorado. In-bound manifest number AR-1571068 from Teris-Wilmington lists waste profile number 289467 (Teris-El Dorado) on more than one waste stream, page 5, line 28d, a non-RCRA hazardous waste liquid, page 5, line 28e, paint related liquid and page 5, line 28g, non-RCRA hazardous waste solid. In addition, this waste profile number 289467 (Teris-El Dorado) and profile number 740586 (Teris-Wilmington) do not list the same processes generating the waste. Teris should ensure that the waste received is accurately depicted on the manifest and the WMDS.